

Year 4 Curriculum Overview- 2023-2024

The Year 4 Curriculum has been designed using the NCETM PD materials and the DFE Teaching Mathematics in Primary Schools documents whilst ensuring full National Curriculum coverage. Sequencing is largely based on the recommendations of the NCETM
This is a working document and timing can be adapted to meet the needs of the children.

Autumn 1

Tuesday 5th /Wednesday 6th Sept- Pre Assessment of Y3 Place Value and teach the objective- according to the objective

Catch up lessons (if applicable) 7th-9th

NCETM PD materials:

1.22 Composition and Calculation: 1,000 and four digit numbers

NB: Refer to unit 1.18 as a starting point within lessons from Y3 spine

Explore the composition of 1,000 and four-digit numbers, using the partitioning structure, and make links to measures; introduce children to calculation across thousands boundaries, and extend column algorithms and rounding to four-digit numbers.

Week 2-4
11th- 29th Sep

- **Teaching point 1:** Ten hundreds make 1,000, which can also be decomposed into 100 tens and 1,000 ones.
- **Teaching point 2:** When multiples of 100 are added or subtracted, the sum or difference is always a multiple of 100.
- **Teaching point 3:** Numbers over 1,000 have a structure that relates to their size. This means they can be ordered, composed and decomposed.
- **Teaching point 4:** Numbers can be rounded to simplify calculations or to indicate approximate sizes.
- **Teaching point 5:** Calculation approaches learnt for three-digit numbers can be applied to four-digit numbers.
- **Teaching point 6:** 1,000 can also be composed multiplicatively from 500s, 250s or 200s, units that are commonly used in graphing and measures. **Include counting in multiples of 25, 50 etc.**

Ensure by the end of the unit the Ready to Progress Criteria is covered fully:

4NPV-1 Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100.

4NPV-2 Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and non-standard partitioning.

4NPV-3 Reason about the location of any four-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each.

4NPV-4 Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts

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Week 5 2nd-6th Sep	Using place value knowledge to revise written methods of whole numbers: • add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. (Using numberless problems to teach strategy)
NCETM PD materials: 2.10 Connecting multiplication and division, and the distributive law Explore why multiplication is commutative while division is not. Build on understanding of the difference between adjacent multiples to explore the distributive law, and apply it to derive multiplication facts.	
Week 6 9th- 13th	• Teaching point 1: Multiplication is commutative; division is not commutative. • Teaching point 2: Multiplication is distributive; multiplication facts can be derived from related known facts by partitioning one of the factors, and this can be interpreted as partitioning the number of groups; two-part problems that involve addition/subtraction of products with a common factor can be efficiently solved by applying the distributive law. • Teaching point 3: The distributive law can be used to derive multiplication facts beyond known times tables. Ensure by the end of the unit the Ready to Progress Criteria is covered fully: 4MD-2 Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication 4MD-3 Understand and apply the distributive property of multiplication.
Before beginning the next unit, ensure children are secure in times tables covered in Y3 based on assessment data and teaching across the first few weeks.	
NCETM PD materials: 2.11 Times Tables: 11 and 12 Build up the eleven and twelve times tables using the distributive law, and solve associated multiplication and division problems. Combine known six times table facts with doubling facts and strategies to multiply by twelve.	

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Week 7 16th-20th Oct	Cover any times tables that need revising first. • Teaching point 1: The distributive law can be used to build up the 11 times table by partitioning 11 into 10 and 1. Adjacent multiples of 11 have a difference of 11. • Teaching point 2: The distributive law can be used to build up the 12 times table by partitioning 12 into 10 and 2. Adjacent multiples of 12 have a difference of 12. • Teaching point 3: Products in the 12 times table are double the products in the six times table; products in the six times table are half of the products in the 12 times table. • Teaching point 4: Divisibility rules can be used to find out whether a given number is divisible (to give a whole number) by 11 or 12. Ensure by the end of the unit the Ready to Progress Criteria is covered fully: 4NF-1 Recall multiplication and division facts up to 12 x 12 , and recognise products in multiplication tables as multiples of the corresponding number.
NCETM PD materials: 2.12 Division with remainders Explore how some quantities can be split into equal groups with a remainder, and express this using mathematical notation; practise interpreting the meaning of the remainder in different contexts.	
Week 8 23rd-27th Oct	• Teaching point 1: Objects can be divided into equal groups, sometimes with a remainder; objects can be shared equally, sometimes with a remainder; a remainder can be represented as part of a division equation. • Teaching point 2: If the dividend <i>is</i> a multiple of the divisor, there is <i>no</i> remainder; if the dividend <i>is not</i> a multiple of the divisor, there <i>is</i> a remainder. The remainder is always less than the divisor. • Teaching point 3: When solving contextual problems involving remainders, the answer to a division calculation must be interpreted carefully to determine how to make sense of the remainder. Ensure by the end of the unit the Ready to Progress Criteria is covered fully: 4NF-2 Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, for example $74 \div 9 = 8 \text{ r } 2$; and interpret remainders appropriately according to the context.

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Autumn 2

NCETM PD materials:

2.13 Calculation: multiplying and dividing by 10 and 100

Use place-value knowledge to develop strategies for multiplying/dividing by 10 and 100. Generalise about the product or quotient when a factor or the dividend is made 10 or 100 times bigger/smaller.

Week 1 and 2
6th -17th Nov

- **Teaching point 1:** Finding 10 times as many is the same as multiplying by 10 (for positive numbers); to multiply a whole
- **Teaching point 1:** Finding 10 times as many is the same as multiplying by 10 (for positive numbers); to multiply a whole number by 10, place a zero after the final digit of that number.
- **Teaching point 2:** To divide a multiple of 10 by 10, remove the final zero digit (in the ones place) from that number.
- **Teaching point 3:** Finding 100 times as many is the same as multiplying by 100 (for positive numbers); to multiply a whole number by 100, place two zeros after the final digit of that number.
- **Teaching point 4:** To divide a multiple of 100 by 100, remove the final two zero digits (in the tens and ones places) from that number.
- **Teaching point 5:** Multiplying a number by 100 is equivalent to multiplying by 10, and then multiplying the product by 10. Dividing a multiple of 100 by 100 is equivalent to dividing by 10, and then dividing the quotient by 10.
- **Teaching point 6:** If one factor is made 10 times the size, the product will be 10 times the size. If the dividend is made 10 times the size, the quotient will be 10 times the size.
- **Teaching point 7:** If one factor is made 100 times the size, the product will be 100 times the size. If the dividend is made 100 times the size, the quotient will be 100 times the size.

Ensure by the end of the unit the Ready to Progress Criteria is covered fully:

4MD-1 Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size.

NCETM PD materials:

1.23 Composition and calculation: tenths

Introduce children to tenths using both the partitioning structure and ideas of place value; apply additive facts and strategies, including column algorithms, and rounding to numbers with tenths.

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Week 3 and 4 20 th -1 st Dec	• Teaching point 1: When one is divided into ten equal parts, each part is one tenth of the whole. • Teaching point 2: Tenths can be expressed as decimal fractions; the number written '0.1' is one tenth; one is ten times the size of 0.1. • Teaching point 3: We can count in tenths up to and beyond one. • Teaching point 4: Numbers with tenths can be composed additively and multiplicatively. • Teaching point 5: Known facts and strategies, including column algorithms, can be applied to calculations for numbers with tenths. • Teaching point 6: Numbers with tenths can be rounded to the nearest whole number by examining the value of the tenths digit.
NCETM PD materials: 1.23 Composition and calculation: hundredths and thousandths Building on segment 1.23, introduce children to hundredths (and thousandths) using both the partitioning structure and ideas of place value; apply additive facts and strategies, including column algorithms, and rounding to numbers with hundredths (and thousandths).	

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Week 5 and 6 4th-18th Dec	• Teaching point 1: When one is divided into 100 equal parts, each part is one hundredth of the whole. When one tenth of a whole is divided into ten equal parts, each part is one hundredth of the whole. • Teaching point 2: Hundredths can be expressed as decimal fractions; the number written '0.01' is one hundredth; one is one hundred times the size of 0.01; 0.1 is ten times the size of 0.01. • Teaching point 3: We can count in hundredths up to and beyond one. • Teaching point 4: Numbers with hundredths can be composed additively and multiplicatively. • Teaching point 5: Numbers with tenths and hundredths are commonly used in measurement, scales and graphing contexts. • Teaching point 6: Known facts and strategies, including column algorithms, can be applied to calculations for numbers with hundredths; the same approaches can be used for numbers with hundredths as are used for numbers with tenths. • Teaching point 7: Numbers with hundredths can be rounded to the nearest tenth by examining the value of the hundredths digit or to the nearest whole number by examining the value of the tenths digit. • Teaching point 8: When one is divided into 1,000 equal parts, each part is one thousandth of the whole. Knowledge and strategies for numbers with tenths and hundredths can be applied to numbers with thousandths.
Introduce fraction and decimal equivalents at this point: • recognise and write decimal equivalents of any number of tenths or hundredths • recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$	
Spring 1	
Before starting the next unit, ensure children are secure with the Y3 Ready to Progress statement: 3AS-1 Calculate complements to 100	
NCETM PD materials:NCETM PD materials: 2.16 Multiplicative contexts: area and perimeter 1 Use addition and multiplication to solve problems about the perimeter of irregular and regular 2D shapes, and use division to solve associated inverse problems.	

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Week 1 8th-12th Dec	● Teaching point 1: Perimeter is the distance around the edge of a two-dimensional (2D) shape. ● Teaching point 2: Perimeter is measured in units of length and can be calculated by adding together the lengths of the sides of a 2D shape. ● Teaching point 3: Multiplication can be used to calculate the perimeter of a regular polygon; when the perimeter is known, side-lengths can be calculated using division. https://www.ncetm.org.uk/classroom-resources/cp-year-4-unit-3-perimeter-1/
1.25 Addition and subtraction: money Building on segments 1.23 and 1.24, introduce children to conventions for expressing monetary value and explore the equivalence of 100p and £1; encourage children to select column algorithms or equivalent calculations where most appropriate.	
Week 2-3 15th-26th Dec	● Teaching point 1: One penny is one hundredth of a pound; conventions for expressing quantities of money are based on expressing numbers with tenths and hundredths. ● Teaching point 2: Equivalent calculation strategies for addition can be used to efficiently add commonly-used prices. ● Teaching point 3: The 'working forwards'/'finding the difference' strategy for subtraction is an efficient way to calculate the change due when paying in whole pounds or notes. ● Teaching point 4: Column methods can be used to add and subtract quantities of money. ● Teaching point 5: Finding change when purchasing several items uses the part-part-(part-)whole structure.
NCETM PD materials: 2.14 Multiplication: partitioning leading to short multiplication Introduce the short multiplication algorithm, using it to multiply two-/three-digit numbers by single-digit numbers; explore regrouping where necessary.	

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Week 4 29th-2nd Jan	● Teaching point 1: The distributive law can be applied to multiply any two-digit number by a single-digit number, by partitioning the two-digit number into tens and ones, multiplying the parts by the single-digit number, then adding the partial products. ● Teaching point 2: Any two-digit number can be multiplied by a single-digit number using an algorithm called '<i>short multiplication</i>'; the digits of the factors must be aligned correctly; the algorithm is applied working from the least significant digit (on the right) to the most significant digit (on the left); if the product in any column is ten or greater, we must '<i>regroup</i>'. ● Teaching point 3: The distributive law can be applied to multiply any three-digit number by a single-digit number, by partitioning the three-digit number into hundreds, tens and ones, multiplying the parts by the single-digit number, then adding the partial products. ● Teaching point 4: Any three-digit number can be multiplied by a single-digit number using the short multiplication algorithm.
NCETM PD materials: 2.15 Division: partitioning leading to short division Introduce the short division algorithm, using it to divide two-/three-digit numbers by single-digit numbers; explore exchange where necessary.	
Week 5 and 6 5th-16th Feb	● Teaching point 1: Any two-digit number can be divided by a single-digit number, by partitioning the two-digit number into tens and ones, dividing the parts by the single-digit number, then adding the partial quotients; if dividing the tens gives a remainder of one or more tens, we must exchange the remaining tens for ones before dividing the resulting ones value by the single-digit number. ● Teaching point 2: Any two-digit number can be divided by a single-digit number using an algorithm called '<i>short division</i>'; the algorithm is applied working from the most significant digit (on the left) to the least significant digit (on the right); if there is a remainder in the tens column, we must '<i>exchange</i>'. ● Teaching point 3: Any three-digit number can be divided by a single-digit number, by partitioning the two-digit number into hundreds, tens and ones, dividing the parts by the single-digit number, then adding the partial quotients; if dividing the hundreds gives a remainder of one or more hundreds, we must exchange the remaining hundreds for tens before dividing the resulting tens value by the single-digit number. ● Teaching point 4: Any three-digit number can be divided by a single-digit number using the short-division algorithm.
Spring 2	

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NCETM PD materials:

2.16 Multiplicative contexts: area and perimeter 1

Use addition and multiplication to solve problems to find the **area** of rectilinear and composite rectilinear shapes; use division to solve associated inverse problems.

Week 1
26th-1st March

- **Teaching point 4:** Area is the measurement of the surface of a flat item.
- **Teaching point 5:** Area is measured in square units, such as square centimetres (cm²) and square metres (m²).
- **Teaching point 6:** The area of a rectangle can be calculated using multiplication; the area of a composite rectilinear shape can be found by splitting the shape into smaller rectangles.

Ensure by the end of the unit the Ready to Progress Criteria is covered fully:
4G-2 Find the perimeter of regular and irregular polygons.

Before starting the Y4 Fractions unit, ensure children have a basic understanding of fractions using the Y3 Ready to progress materials. They should be able to:

- Reason about the location of fractions less than 1 in the linear number system
- Identify unit and non-unit fractions
- Identify common equivalent fractions

NCETM PD materials:

3.5 Working across one whole: improper fractions and mixed numbers

Meet mixed numbers and improper fractions, and learn to convert between them; compare, order and place them on a number line. Extend addition and subtraction from within a whole to numbers greater than one whole.

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Week 3-6 4th-22nd-March	• Teaching point 1: Quantities made up of both wholes and parts can be expressed as mixed numbers. • Teaching point 2: Mixed numbers can be placed on a number line. • Teaching point 3: Understanding how to compare and order proper fractions supports the comparison and ordering of mixed numbers. • Teaching point 4: Mixed numbers can be partitioned and combined in the same way as whole numbers. • Teaching point 5: Mixed numbers can be written as improper fractions. • Teaching point 6: Improper fractions can be added and subtracted in the same way as proper fractions. Ensure by the end of the unit the Ready to Progress Criteria is covered fully: 4F-1 Reason about the location of mixed numbers in the linear number system. 4F-2 Convert mixed numbers to improper fractions and vice versa 4F-3 Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers
Summer 1	
NCETM PD materials: 3.6 Multiplying whole numbers and fractions Consider multiplication of whole numbers and proper fractions as both repeated addition and scaling. Understand that multiplication of a whole number by a proper fraction results in a smaller number. 2.17 Structures: using measures and comparison to understand scaling Build on segment 2.13 to introduce the scaling structure of multiplication and division; use known multiplication and division strategies to solve problems about scaling/comparison problems. NB: There is some overlap of concepts between these two segments, and teachers may wish to integrate the two.	

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Week 1-3	3.6 Multiplying whole numbers and fractions • Teaching point 1: Repeated addition of proper and improper fractions can be expressed as multiplication of a fraction by a whole number. • Teaching point 2: Repeated addition of a mixed number can be expressed as multiplication of a mixed number by a whole number. • Teaching point 3: Finding a unit fraction of a quantity can be expressed as a multiplication of a whole number by a fraction. • Teaching point 4: A non-unit fraction of a quantity can be calculated by first finding a unit fraction of that quantity. • Teaching point 5: If the size of a non-unit fraction is known, the size of the unit fraction and then the size of the whole can be found. 2.17 Structures: using measures and comparison to understand scaling • Teaching point 1: A longer length can be described in terms of a shorter length using the language of 'times'; the longer length can be calculated, if the shorter length is known, using multiplication. • Teaching point 2: A shorter length can be described in terms of a longer length using the language of fractions; the shorter length can be calculated, if the longer length is known, using division. • Teaching point 3: Other measures can be compared using the language of 'times' and fractions, and calculated using multiplication or division.
Properties of Shape	

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Week 4-5 Use NCETM curriculum map documents	Pupils should be taught to: • compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes • identify acute and obtuse angles and compare and order angles up to two right angles by size • identify lines of symmetry in 2-D shapes presented in different orientations • complete a simple symmetric figure with respect to a specific line of symmetry. Ensure by the end of the unit children are secure in the RTP criteria: 4G-2 Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons. (covered earlier in the year) 4G-3 Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry. https://www.ncetm.org.uk/classroom-resources/cp-year-4-curriculum-map/
Summer 2	
Measurement	
Week 1-3 Use NCETM curriculum map documents	Pupils should be taught to: • describe positions on a 2-D grid as coordinates in the first quadrant • describe movements between positions as translations of a given unit to the left/right and up/down • plot specified points and draw sides to complete a given polygon. Ensure by the end of the unit children are secure in the RTP criteria: 4G-1 Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant. https://www.ncetm.org.uk/classroom-resources/cp-year-4-curriculum-map/
Position and Direction	

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Week 4	Pupils should be taught to: • Convert between different units of measure [for example, kilometre to metre; hour to minute] χ • read, write and convert time between analogue and digital 12- and 24-hour clocks • solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days. Ensure by the end of the unit children are secure in the RTP criteria: 4G-1 Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant.
Statistics	
Week 5 and 6	Pupils should be taught to: • interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. • solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.
Week 7	Assessment

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